Owner's Manual

THE AC-215 / AC-210 E

AC POWER CONDITIONERS

THE AC-215

THE AC-210 E

FURMAN

OWNER'S MANUAL

Introduction

Thank you for purchasing the Furman AC-215 / AC-210 E Power Conditioner. For over 30 years, Furman has pioneered the development and manufacturing of AC power products for the most demanding audio, video, and broadcast professionals. Furman's Series Multi-Stage Protection Plus (SMP+) delivers the purest AC power and the most comprehensive protection available – going far beyond what is found in traditional surge strips.

Today's power grid typically experiences numerous electrical surges and spikes on a daily basis. At best, these irregularities can degrade your equipment's performance; at worst, they can severely damage individual components or your entire system. Furman's SMP+ circuit offers the highest degree of protection available.

The AC-215 / AC-210 E is specifically designed for today's diverse power purification applications. This compact unit can be mounted behind a projector; LCD or plasma screen; inside of a rack; on a wall or a ceiling; or any other location where discrete power conditioning is needed. Its compact, streamlined design integrates easily into any system, and the included brackets allow you to mount it inconspicuously.

Features

- Advanced Linear Filtering Technology for unequalled audio/video clarity
- Series Multi-Stage Protection Plus for AC surge protection with Extreme Voltage Shutdown and a TVZ MOV offers the highest amount of protection available for your equipment
- Zero ground contamination circuitry protects critical video circuits
- Compact chassis design easily attaches to any flat screen television mount with included hardware

Safety Information

To obtain best results from your Furman AC-215 / AC-210 E Power Conditioner, please be sure to read this manual carefully before using.

Warning

To reduce the risk of electrical shock, do not expose this equipment to rain or moisture. Dangerous high voltages are present inside the enclosure. Do not remove the covers. There are no user serviceable parts inside. Refer servicing to qualified personnel only. The lightning flash with an arrowhead symbol, (within an equilateral triangle) is intended to alert the user to the presence of un-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

Important Safety Instructions

1. Please read and observe all safety and operating instructions before installing your unit. Retain these instructions for future reference.

2. Your unit should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, etc.

3. Do not place your unit near heat sources such as radiators, heat registers, stoves or other appliances that produce heat.

4. The unit should only be connected to a 120 VAC, 60Hz, 15 Amp [230 VAC and10 Amp for the AC-210 E] grounded electrical outlet. Do not defeat the ground or change polarization of the power plug.

5. Route the power cord and other cables so that they are not likely to be walked on, tripped over, or stressed. Pay particular attention to the condition of the cords and cables at the plugs, and the point where they exit your unit. To prevent risk of fire or injury, damaged cords and cables should be replaced immediately.

6. Clean your unit with a damp cloth only. Do not use solvents or abrasive cleaners. Never pour liquid on or into the unit.

7. Your unit should be serviced by qualified service personnel when:

- The power supply cord or the plug has been frayed, kinked, or cut.
- Objects have fallen or liquid has spilled into the unit.
- The unit has been exposed to rain or other moisture.
- The unit does not appear to operate normally or exhibits a marked change in performance.
- The unit has been dropped, or the enclosure damaged.

8. Your unit requires that a safety ground be present for proper operation. Any attempt to operate the unit without a safety ground is considered improper operation and could invalidate the warranty.

9. Do not attempt to service yourunit beyond what is described in this manual. All other servicing should be referred to qualified service personnel.

Overview

While the AC power delivered by today's overworked and outdated power grid may be adequate for typical lighting and consumer products, it is well below the level of quality needed for connecting sensitive audio and video equipment. With the average investment in home theater equipment steadily rising, it's more important than ever to purify or clean your incoming AC power.

Furman's Series Multi-Stage Protection Plus (SMP+) circuitry incorporates Linear Filtering Technology (LiFT) to insure that flat screen televisions, projectors, processors, and other sensitive audio/video components are fed linearly-filtered AC power. This dramatically reduces noise, ensuring consistent, peak performance from your equipment. The result is better performance, a better quality picture, and less wear on your components.

Another feature unique to Furman's SMP+ circuit is automatic Extreme Voltage Shutdown (EVS) with a TVZ MOV. Extreme voltages are statistically the most common, damaging AC event. The Extreme Voltage Shutdown circuit automatically turns off the AC-215 / AC-210 E when it is fed 137 volts [270 VAC for the AC-210 E] or higher, protecting itself and connected equipment from the extreme voltage. Only Furman offers this advanced degree of protection.

Indicators

Extreme Voltage Shutdown Indicator

The AC Series SMP+ circuit senses voltages that are high enough to cause damage to your components, and shuts the power down before damage can occur.

The Extreme Voltage Shutdown LED is normally off. If an input voltage in excess of 137VAC [or 270 VAC for the AC-210 E] is sensed, either on initial power-up or during normal operation, the AC-215 / AC-210 E will shut off power and this indicator will light.

NOTE: If the mains power is above the high cutoff voltage and has caused the unit to remove power from its outlets, it cannot restore power without the operator manually turning the unit off, then on again. Avoid turning the unit back on, without first checking the source of the problem, and perhaps changing the AC source.

Protection OK Indicator

Although the Furman SMP+ circuit assures protection from transient voltage spikes and surges, nature has a way of occasionally creating electrical forces that are beyond the capabilities of any TVSS device to absorb without some degree of damage. In the rare instance that this occurs, the green “Protection OK” LED indicator located on your front panel will turn off. If this happens, some level of protection from voltage surges will remain, but the Furman’s clamping voltage rating will be compromised. The unit must be returned to Furman Sound, or an authorized Furman Service center for repair.

Troubleshooting

Symptom: No power to the AC outlets.

Possible Cause: Circuit breaker has tripped due to excessive load.

Action Needed: Unplug one piece of equipment from the AC-215 / AC-210 E, and push the re-set tab into the Circuit breaker bezel.

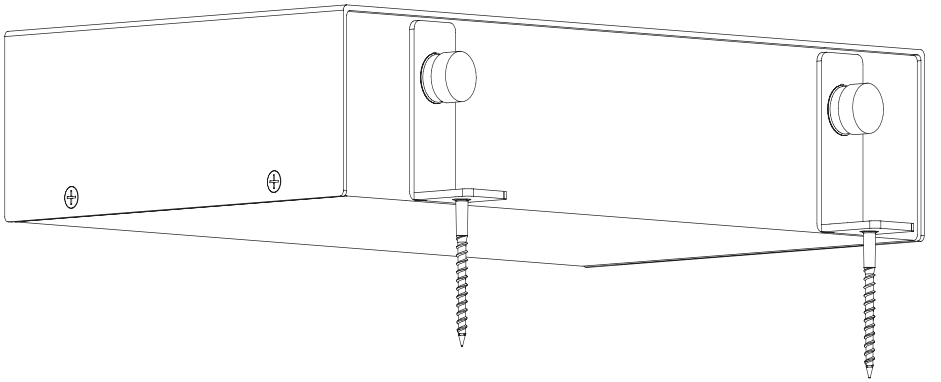
Symptom: No power to the AC outlets, even after the Circuit breaker has been re-set.

Possible Cause: Protection devices are damaged.

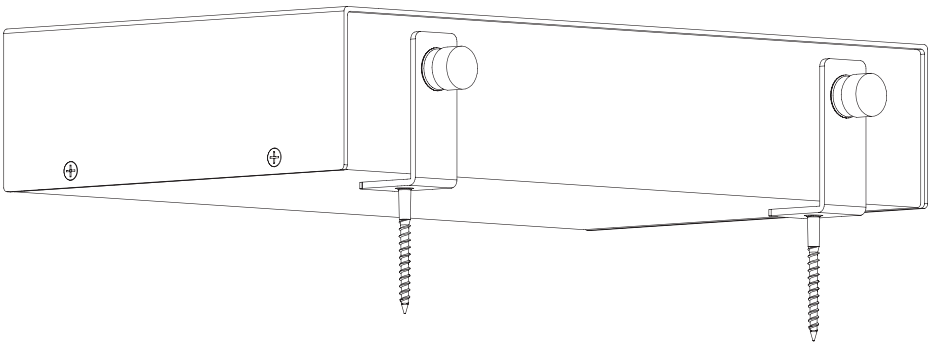
Installation

The AC-215 / AC-210 E can be conveniently and inconspicuously mounted within an equipment rack or on the rear panel of your video display, using the included brackets.

Refer to the illustrations below for instructions.



The brackets can be positioned facing in or out as shown to best allow for different types of installations.



Warranty

Furman Sound, Inc. warrants to the original purchaser of this product, the Furman AC-215 / AC-210 E, that the product will be free from defects in material and workmanship for a period of three years from the date of purchase. The purchaser of the product is allowed fifteen days from the date of purchase to complete warranty registration by mail or on-line at the Furman website. If the purchaser fails to complete the aforementioned registration, the warranty period will be reduced to one year from the date of purchase.

If the product does not conform to this Limited Warranty during the warranty period (as herein above specified), purchaser shall notify Furman in writing of the claimed defects. If the defects are of such type and nature as to be covered by this warranty, Furman shall authorize the purchaser to return the product to the Furman factory or to an authorized Furman repair location. Warranty claims should be accompanied by a copy of the original purchase invoice showing the purchase date; this is not necessary if the Warranty Registration was completed either by mailing in the completed warranty card or by registering on-line at the Furman website. Shipping charges to the Furman factory or to an authorized repair location must be prepaid by the purchaser of the product. Furman shall, at its own expense, furnish a replacement product or, at Furman's option, repair the defective product. Return shipping charges back to purchaser will be paid by Furman.

THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Furman does not warrant against damages or defects arising out of improper or abnormal use or handling of the product; against defects or damages arising from improper installation, against defects in products or components not manufactured by Furman, or against damages resulting from such non-Furman made products or components. This warranty shall be cancelable by Furman at its sole discretion if the product is modified in any way without written authorization from Furman Sound. This warranty also does not apply to products upon which repairs have been affected or attempted by persons other than pursuant to written authorization by Furman.

THIS WARRANTY IS EXCLUSIVE. The sole and exclusive obligation of Furman shall be to repair or replace the defective product in the manner and for the period provided above. Furman shall not have any other obligation with respect to this product or any part thereof, whether based on contract, tort, strict liability, or otherwise. Under no circumstances, whether based on this Limited Warranty or otherwise, shall Furman be liable for incidental, special, or consequential damages. Furman's employees or representatives' ORAL OR OTHER WRITTEN STATEMENTS DO NOT CONSTITUTE WARRANTIES, shall not be relied upon by purchaser, and are not a part of the contract for sale or this limited warranty. This Limited Warranty states the entire obligation of Furman with respect to the product. If any part of this Limited Warranty is determined to be void or illegal, the remainder shall remain in full force and effect.

Warranty claims should be accompanied by a copy of the original purchase invoice showing the date of purchase (if a Warranty Registration Card was mailed in at the time of purchase or if the product was registered on-line, this is not necessary). Before returning any equipment for repair, please be sure it is adequately packed and cushioned against damage in shipment, and that it is insured.

Service

All equipment being returned for repair must have a Return Authorization (R/A) Number. To get an R/A number, please call the Furman Service Department at (707) 763-1010 ext 121, between the hours of 8:00 am and 5:00 pm US Pacific Time. When returning equipment for repair, please use the original packaging to ship the product. Also, please enclose a note giving your name, address, phone number, e-mail address, and a description of the problem. Please display your R/A Number prominently on the front of all packages.

Specifications

AC Current Capacity	
Input:	15 Amp capacity required (10 Amp for the AC-210 E)
Output:	15 Amp RMS (both outlets combined) (10 Amp for the AC-210 E)
AC Noise Attenuation	
Transverse (Differential) Mode	>40dB from 10kHz to 100kHz >80dB from 100kHz to 1GHz (linear attenuation curve from 0.05 to 100Ω line impedance)
Transient Voltage Surge Suppression	120VAC (230VAC for AC-210 E) Series Multi-Stage Protection Plus Non-Sacrificial with Zero Ground contamination
Domestic:	188V peak clamping @ 6000V/3000A input
International:	276V peak clamping for AC-210 E
Extreme Voltage Shutdown	137 VAC typically (270 VAC typically for the AC-210 E)
Dimensions & Weight	1.75” (H) x 5” (W) x 8.5” (D), 3 lbs.
Safety Agency Listing	CE / TUV / NRTL-C

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